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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/705,241	11/12/2003	Takehito Tamaoka	10025-00109	3547

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EXAMINER

PHAM, LEDA T

ART UNIT	PAPER NUMBER
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2834

DATE MAILED: 05/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/705,241	TAMAOKA ET AL.	
	Examiner	Art Unit	
	Leda T. Pham	2834	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-6,17-19,21 and 22 is/are allowed.
- 6) ☒ Claim(s) 7-15 is/are rejected.
- 7) ☒ Claim(s) 16 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|-----------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshitsugu et al. (U.S. Patent No. 6,787,954 B2) in view of Moritan et al. (U.S. Patent No. 5,822,846).

Referring to claim 7, Yoshitsugu teaches a dynamic bearing device (figure 1) comprising a housing (2), a bearing sleeve (5) secured to an inner periphery of the housing, an axial member (8) with an axial portion (the shaft 8 portion opposing the inner surface of sleeve 5) and a flange portion (11), a thrust member (12) secured to an inner peripheral portion at one end of the sleeve, a radial bearing portion which is provided between the bearing sleeve and the axial portion, and supports the axial portion in a non-contact manner in a radial direction by a dynamic pressure action of a lubricating oil that is generated in a radial bearing gap, and a thrust bearing portion, which is provided between the bearing sleeve and the thrust member, and the flange portion and supports the flange portion in a non-contact manner in a thrust direction by a dynamic pressure action of the lubricating oil that is generated in a thrust bearing gap, and the thrust member (12) secured to the inner peripheral portion at the one end of the sleeve (5) with an adhesive disposed therebetween.

However, Yoshitsugu does not disclose the thrust member is press fitted and secured to the inner peripheral portion at the one end of the housing.

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Moritan teaches a dynamic bearing device (figure 1B) having a housing (23), a thrust member (22) wherein the thrust member (22) is press fitted and secured to the inner peripheral portion at the one end of the housing (23) with an adhesive disposed therebetween (lines 15 – 18 column 8) for reducing the height in the direction of the motor shaft.

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the dynamic bearing device with the thrust member press fitted in the housing as taught by Moritan. Doing so would provide a magnetic disk of a portable type with small in its thickness and height.

3. Claims 8 – 13, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Yoshitsugu and Moritan as applied in claim 7 above, and further in view of Teshima (U.S. Patent No. 5,914,832).

Referring to claims 8 and 20, the combination of Yoshitsugu and Moritan teaches the claimed invention, except for the added limitation of an internal taper shaped space is provided between an outer peripheral portion of the thrust member and the inner peripheral portion at the one end of the housing.

Teshima discloses a dynamic bearing device having an inner taper shaped space (13) is provided between an outer peripheral portion of the thrust member (5) and the inner peripheral portion at the one end of the housing (3), adjacent to a press fitting portion (10) of the thrust member inside the housing (figure 3b) for preventing lubricating oil from leaking.

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the dynamic bearing device with the forming of inner taper space

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as taught by Teshima. Doing so would provide a spindle motor with a fluid bearing having a thrust plate at low cost.

Referring to claim 9, Teshima discloses the dynamic bearing device wherein the outer peripheral portion of the thrust member (5) comprises a tapered surface (11) for forming the internal taper shaped space (13).

Referring to claim 10, Teshima discloses the dynamic bearing device wherein an external taper shaped space (12) is also provided between the outer peripheral portion of the thrust member (5) and the inner peripheral portion at the one end of the housing (3), for retaining the adhesive, adjacent to the press fitting portion (10) of the thrust member outside the housing (figure 3a, 3b).

Referring to claim 11, Teshima discloses the dynamic bearing device wherein the outer peripheral portion of the thrust member (5) comprises a tapered surface (12) for forming the external taper shaped space (13).

Referring to claim 12, Teshima teaches the dynamic bearing device wherein the inner peripheral portion at the one end of the housing (3) comprises a step portion, which is positioned within the external taper shaped space, and faces toward an outside of the housing (figure 3b).

Referring to claim 13, the claim language is a method of producing a dynamic bearing that is not germane to the issue of patentability of the device itself. Therefore, this limitation has not been given patentable weight.

4. Claims 14 -15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Obara (U.S. Patent No. 6,657,340 B2) in view of Teshima (U.S. Patent No. 6,512,654 B2).

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Referring to claim 14, Obara teaches a dynamic bearing device (figure 1) comprising a housing (20), a bearing sleeve (9) secured to an inner peripheral surface of the housing, an axial member (12), and a radial bearing portion which is provided between the bearing sleeve and the axial member, and supports the axial member in a non-contact manner in a radial direction by a dynamic pressure action of a lubricating oil that is generated in a radial bearing gap, wherein the bearing sleeve (9) is secured to the inner peripheral surface of the housing with press fitting, and a concave adhesive reservoir (26) is provided between an inner peripheral surface of the housing and an outer peripheral surface of the bearing sleeve (any concave between inner peripheral surface of the housing 20 and the outer peripheral surface of the bearing sleeve 9 can be concave adhesive reservoir).

However, Obara does not disclose the bearing sleeve is secured to the inner peripheral surface of the housing with an adhesive.

Teshima teaches a dynamic bearing device having a housing (1) and a sleeve bearing (3) wherein the sleeve bearing (3) is secured to the inner peripheral surface of the housing (1) with an adhesive (70) to make a resistance between the magnetic disk and the motor housing is low.

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the sleeve securing to the housing with an adhesive as taught by Teshima. Doing so would make lower the resistance between the magnetic disk and the motor housing.

Referring to claim 15, Obara discloses the dynamic bearing device wherein the adhesive reservoir (26) is provided at the inner peripheral surface of the housing (20).

Allowable Subject Matter

5. Claim 16 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. Claims 1 – 6, 17 – 19, 21 – 22 are allowed.

7. The following is an examiner's statement of reasons for allowance: the record of prior art does not show a dynamic bearing device having a securing surface has a deformation region that deforms radially outward by a predetermined quantity during press fitting of a thrust member, and with the thrust member in a press fitted state, the securing surface adopts a substantially straight shape in the axial direction along an entire axial length of the securing surface regarding to claim 1,4, and 19. Furthermore, the record of prior art does not show a dynamic bearing device having an adhesive reservoir gradually reducing in size in both axial direction and an inside surface of seal portion with an inner diameter side region and an outer diameter side region wherein the inner diameter side region partially contacts with an inner diameter side region of an end surface of the bearing sleeve, and the outer diameter side region recedes from the end surface of the end surface of the bearing sleeve to form a recessed portion regarding to claim 17, 21 and 22.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

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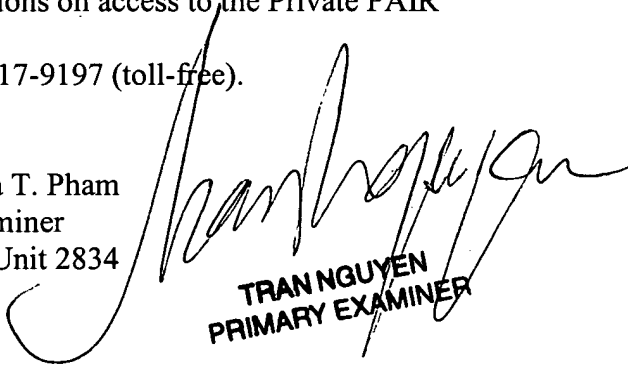
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leda T. Pham whose telephone number is (571) 272-2032. The examiner can normally be reached on M-F (8:30-6:00) first Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren Schuberg can be reached on (571) 272-2044. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Leda T. Pham
Examiner
Art Unit 2834


TRAN NGUYEN
PRIMARY EXAMINER

April 19, 2005